107. (New) The method of claim 91 wherein the first conductive layer comprises tungsten nitride.

108. (New) The method of claim 91 the first plate comprises a hemispherical silicon grain layer and a tungsten nitride layer.

109. (New) The method of claim 91 wherein the second conductive layer comprises a polysilicon layer.

110. (New) The method of claim 109 wherein the second conductive layer further comprises a BPSG layer formed on the polysilicon layer.--

REMARKS

Claims 91and 93-98 along with newly added claims 106-110 are currently pending in the present patent application, with claims 92 and 102-105 having been cancelled.

In an Office Action mailed November 27, 2002, the Examiner objected to claims 91, 94, and 102 for a minor informality and rejected claim 92 in the Office Action under the first paragraph of 35 U.S.C. § 112. Claims 91 and 94 have been amended to correct any such informalities and claim 92 has been cancelled.

The Examiner rejected claims 91-98 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art ("APA") in view of U.S. Patent No. 5,332,444 to George *et al.* ("George"). The rejections of claims 102-105 will not be discussed since these claims have been cancelled.

Amended claim 91 recites a method of treating a semiconductor device that includes providing a capacitor having a first plate, a dielectric over the first plate, and a second plate over the dielectric. The second plate includes first and second conductive layers. The first conductive layer is exposed to a material selected from the group consisting of phosphine and methylsilane to reduce an ability of the first conductive layer to associate with oxygen. The second conductive layer is formed on the first conductive layer, with the second conductive layer being formed after the first conductive layer has been exposed to the material from the group.

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Neither the APA nor George, nor any of the prior art of record, discloses or suggests exposing a first conductive layer to a material selected from the group consisting of phosphine and methylsilane to reduce an ability of the first conductive layer to associate with oxygen. Moreover, the amendments narrow the scope of claim 76 by reducing the number of recited materials to which the first conductive layer is exposed to reduce its ability to associate with oxygen. Accordingly, the amendments do not necessitate an additional search by the Examiner, and place the combination of elements recited in amended claim 91 in condition for allowance.

Amended claim 94 recites a method of treating a semiconductor device that includes providing a capacitor having a first plate, a dielectric on the first plate, a first conductive layer on the dielectric with the first conductive layer having an ability to associate with oxygen, an oxide layer on the first conductive layer, and a second conductive layer on the oxide layer. The capacitor is exposed to a thermal process. Prior to exposure to the thermal process and prior to forming the second conductive layer on the first conductive layer, the first conductive layer is exposed to a material selected from the group consisting of phosphine and methylsilane to reduce an amount of oxygen associated with the first conductive material during formation of the second conductive layer and reduce a thickness of the oxide layer subsequently formed between the first and second conductive layers during exposure of the capacitor to the thermal process.

Once again, neither the APA nor George, nor any of the prior art of record, discloses or suggests exposing a first conductive layer to a material selected from the group consisting of phosphine and methylsilane to reduce an amount of oxygen associated with the first conductive material during formation of the second conductive layer and reduce a thickness of the oxide layer subsequently formed between the first and second conductive layers during exposure of the capacitor to the thermal process. These amendments also narrow the scope of claim 76 by reducing the number of recited materials to which the first conductive layer is exposed to reduce its ability to associate with oxygen. Thus, as with independent claim 91, the amendments necessitate no additional search by the Examiner and place the combination of elements recited in amended claim 94 in condition for allowance.

The claims dependent on the independent claims are allowable for the same reasons as the independent claims, and because of the additional limitations added by the dependent claims. With regard to independent claims 91 and 94, although the amendments

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narrow the scopes of these claims, this does not mean that all equivalents to the recited materials in the amended groups are precluded from the scope of the amended claims under the doctrine of equivalents.

All pending claims are in condition for allowance, and favorable consideration and a Notice of Allowance are respectfully requested. The Examiner is requested to contact the undersigned at the number listed below for a telephone interview if, upon consideration of this amendment, the Examiner determines any pending claims are not in condition for allowance. The undersigned also requests the Examiner to direct all future correspondence to the address set forth below in the event the Examiner shows a different correspondence address for the attorney of record.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version with Markings to Show Changes Made"**.

Respectfully submitted,
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Registration No. 42,118

PFR:asw

Enclosures:
- Postcard
- Check
- Fee Transmittal Sheet (+ copy)
- Supplemental Information Disclosure Statement (+ copy)
- Form PTO-1449
- Cited Reference (1)

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 92 and 102-105 have been cancelled.

Claims 91 and 94 have been amended as follows:

91. (Twice Amended) A method of treating a semiconductor device, comprising:

providing a capacitor having a first plate, a dielectric over the first plate, and a second plate over the dielectric, the second plate including first and second conductive layers;

exposing said first conductive layer to a material selected from the group consisting of [diborane,] phosphine, and methylsilane[, hexamethyldisilane, and hexamethyldisilazane] to reduce an ability of the first conductive layer to associate with oxygen; and

forming the second conductive layer on the first conductive layer, the second conductive layer being formed after the first conductive layer has been exposed to the material from the group.

94. (Twice Amended) A method of treating a semiconductor device, comprising:

providing a capacitor having a first plate, a dielectric on the first plate, a first conductive layer on the dielectric with the first conductive layer having an ability to associate with oxygen, an oxide layer on the first conductive layer, and a second conductive layer on the oxide layer;

exposing the capacitor to a thermal process; and

prior to exposure to the thermal process and prior to forming the second conductive layer on the first conductive layer, exposing the first conductive layer to a material selected from the group consisting of [diborane,] phosphine, and methylsilane[, hexamethyldisilane, and hexamethyldisilazane] to reduce an amount of oxygen associated with

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the first conductive material during formation of the second conductive layer and reduce a thickness of the oxide layer subsequently formed between the first and second conductive layers during exposure of the capacitor to the thermal process.